

**ĐẠI HỌC QUỐC GIA THÀNH PHỐ HỒ CHÍ MINH  
TRƯỜNG ĐẠI HỌC KHOA HỌC TỰ NHIÊN  
KHOA CÔNG NGHỆ THÔNG TIN**



**BÁO CÁO ĐỒ ÁN: THỰC HÀNH ASTERISK  
MÔN HỌC: HỆ THỐNG VIỄN THÔNG**

Sinh viên thực hiện:

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Giáo viên hướng dẫn:

Lê Hà Minh

## Bước 1: Tải và cài đặt FreePDX

```
NOTICE! You have 2 notifications! Please log into the UI to see them!  
Current Network Configuration
```

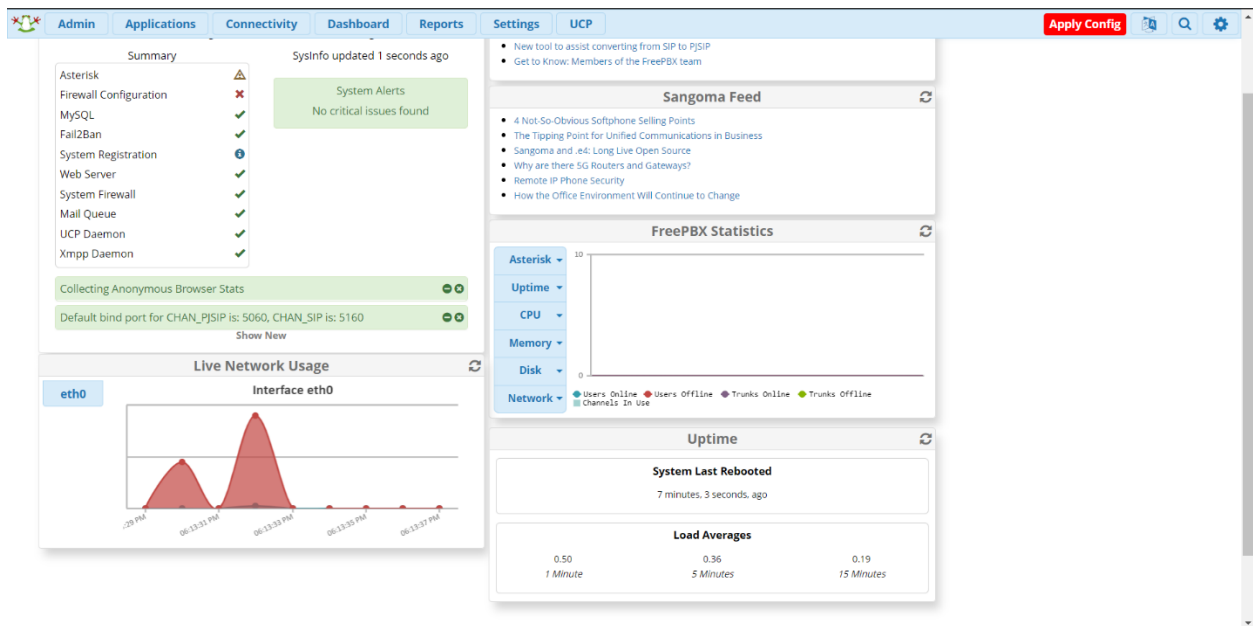
Interface	MAC Address	IP Addresses
eth0	08:0C:29:52:9F:2E	192.168.44.131 fe80::20c:29ff:fe52:9f2e

```
Please note most tasks should be handled through the GUI.  
You can access the GUI by typing one of the above IPs in to your web browser.  
For support please visit:  
http://www.freepbx.org/support-and-professional-services
```

```
+-----+  
| This machine is not activated. Activating your system ensures that |  
| your machine is eligible for support and that it has the ability to |  
| install Commercial Modules.                                         |  
|                                                                       |  
| If you already have a Deployment ID for this machine, simply run:   |  
|                                                                       |  
| fwconsole sysadmin activate deploymentid                            |  
|                                                                       |  
| to assign that Deployment ID to this system. If this system is new, |  
| please go to Activation (which is on the System Admin page in the  |  
| Web UI) and create a new Deployment there.                           |  
+-----+
```

```
[root@freepbx ~]#  
Broadcast message from root@freepbx.sangoma.local (Sat May 30 11:13:05 2020):  
  
Firewall service now starting.
```

## Bước 2: Truy cập địa chỉ máy ảo trên trình duyệt



### Bước 3: Tạo 2 extensions 171,172

The screenshot shows the FreePBX user extension configuration form for extension 171. The form includes the following fields and sections:

- User Extension:** 171
- Display Name:** Nate
- Outbound CID:** (empty)
- Secret:** Really Weak (with a strength indicator bar)
- Language:** Default
- User Manager Settings:**
  - Select User Directory:** PBX Internal Directory
  - Link to a Default User:** Create New User
  - Username:** (empty)
  - Password For New User:** (empty)
  - Groups:** All Users

At the bottom right, there are buttons for "Submit" and "Reset".

Admin Applications Connectivity Dashboard Reports Settings UCP Apply Config

### Add IAX2 Extension 172

General Voicemail Find Me/Follow Me Advanced Pin Sets Other

— Add Extension

User Extension 172

Display Name Nhan

Outbound CID

Secret 123456

+ Language

— User Manager Settings

Select User Directory: PBX Internal Directory

Link to a Default User: Create New User

Username  ☐ Use Custom Username

Password For New User

Groups  All Users

Submit Reset



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All Extensions Custom Extensions DAHDi Extensions IAX2 Extensions SIP [chan\_pjsip] Extensions SIP (Legacy) [chan\_sip] Extensions Virtual Extensions

+ Add Extension Quick Create Extension Delete

	Extension	Name	CW	DND	FM/FM	CF	CFB	CFU	Type	Actions
<input type="checkbox"/>	171	Nate	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	pjsip	<a href="#">Edit</a> <a href="#">Delete</a>
<input type="checkbox"/>	172	Nhan	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	iax2	<a href="#">Edit</a> <a href="#">Delete</a>

Showing 1 to 2 of 2 rows



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#### Bước 4: Tạo dialplan noibo

Chọn Admin => Config Edit => Asterisk Custom Configuration Files => extensions\_custom.conf và thêm

[noibo]

exten=>171,1,Dial(SIP/171,10)

exten=>172,1,Dial(IAX2/172,10)

The image shows a VMware Workstation window titled "Tribox - VMware Workstation". The interface includes a menu bar (File, Edit, View, VM, Tabs, Help), a toolbar, and a Library pane on the left. The Library pane shows a tree view with "My Computer" expanded, listing "Kali-Linux-2020.1", "Ubuntu 64-bit", "CentOS 8", "Tribox", and "Shared VMs". The main window displays a terminal window titled "Tribox" with the following output:

```
tries to include nonexistent context 'ext-cf-hints-custom'
(2020-05-31 07:18:40) WARNING(2959): phx.c:0732 ast_context_verify_includes: Context 'app-cf-prompt
ing-on' tries to include nonexistent context 'app-cf-prompting-on-custom'
(2020-05-31 07:18:40) WARNING(2959): phx.c:0732 ast_context_verify_includes: Context 'app-cf-on' tr
ies to include nonexistent context 'app-cf-on-custom'
(2020-05-31 07:18:40) WARNING(2959): phx.c:0732 ast_context_verify_includes: Context 'app-cf-unvail
lable-off' tries to include nonexistent context 'app-cf-unavailable-off-custom'
(2020-05-31 07:18:40) WARNING(2959): phx.c:0732 ast_context_verify_includes: Context 'app-cf-unvail
lable-on' tries to include nonexistent context 'app-cf-unavailable-on-custom'
(2020-05-31 07:18:40) WARNING(2959): phx.c:0732 ast_context_verify_includes: Context 'app-cf-unvail
lable-prompt-on' tries to include nonexistent context 'app-cf-unavailable-prompt-on-custom'
(2020-05-31 07:18:40) WARNING(2959): phx.c:0732 ast_context_verify_includes: Context 'app-cf-off-an
y' tries to include nonexistent context 'app-cf-off-any-custom'
(2020-05-31 07:18:40) WARNING(2959): phx.c:0732 ast_context_verify_includes: Context 'app-cf-off' t
ries to include nonexistent context 'app-cf-off-custom'
(2020-05-31 07:18:40) WARNING(2959): phx.c:0732 ast_context_verify_includes: Context 'app-cf-busy-o
ff' tries to include nonexistent context 'app-cf-busy-off-custom'
(2020-05-31 07:18:40) WARNING(2959): phx.c:0732 ast_context_verify_includes: Context 'app-cf-busy-o
ff-any' tries to include nonexistent context 'app-cf-busy-off-any-custom'
(2020-05-31 07:18:40) WARNING(2959): phx.c:0732 ast_context_verify_includes: Context 'app-cf-busy-o
n' tries to include nonexistent context 'app-cf-busy-on-custom'
(2020-05-31 07:18:40) WARNING(2959): phx.c:0732 ast_context_verify_includes: Context 'app-cf-busy-p
rompting-on' tries to include nonexistent context 'app-cf-busy-prompting-on-custom'
(2020-05-31 07:18:40) WARNING(2959): phx.c:0732 ast_context_verify_includes: Context 'app-cf-toggle
' tries to include nonexistent context 'app-cf-toggle-custom'
freepbxCLI) dialplan show noibo
[ Context 'noibo' created by 'phx.config' ]
    '121' -> 1. Dial(S102,121,10) (extensions_custom.conf:21)
    '172' -> 1. Dial(1002,172,10) (extensions_custom.conf:31)

-- 2 extensions (2 priorities) in 1 context. --
freepbxCLI) asterisk -r
No such command 'asterisk -r' (type 'core show help asterisk -r' for other possible commands)
freepbxCLI) exit
Asterisk cleanly ending (0).
Executing last minute cleanup
[root@freepbx ~]# asterisk -r
```



Zoiper5

Accounts

SIP

✓ 171@192.168.44.131

Add

171@192.168.44.131

Unregister Advanced ?

### SIP Credentials

Domain	192.168.44.131
Username	171
Password	*****

### Optional SIP credentials

☐ Use auth. username

☐ Use outbound proxy

Outbound proxy

-Tạo 172

Zoiper5

 **ZoiPer**

For example K23XWkd23

Login

Create account



## Username and password

If you already have a VoIP account, please enter your login credentials to the left.  
Most often these are provided either by your VoIP provider, or by your system administrator for your office's IP PBX.

\*we will try to automatically find the necessary configuration for your account. If such does not exist in our database, you'll be asked to enter specific details.


Zoiper5

Fill in your hostname and select your provider from the list

This could also be called 'Domain', 'SIP server', 'Registrar' or 'SIP Proxy'. For example 'sip.example.com' or '123.21.123.32:5060'

Back

Next



### Hostname

This could also be called 'Domain', 'SIP server', 'Registrar' or 'SIP Proxy'. For example 'sip.example.com' or '123.21.123.32:5060'.  
You can also just search for the name of your provider, maybe we know the settings. If not – you'll be able to set it up manually.

Zoiper5

Please wait, we are testing possible configurations

☐ SIP TLS

PRO

☐ SIP TCP

Not found

☐ SIP UDP


Not found

☒ IAX UDP

Found

Back

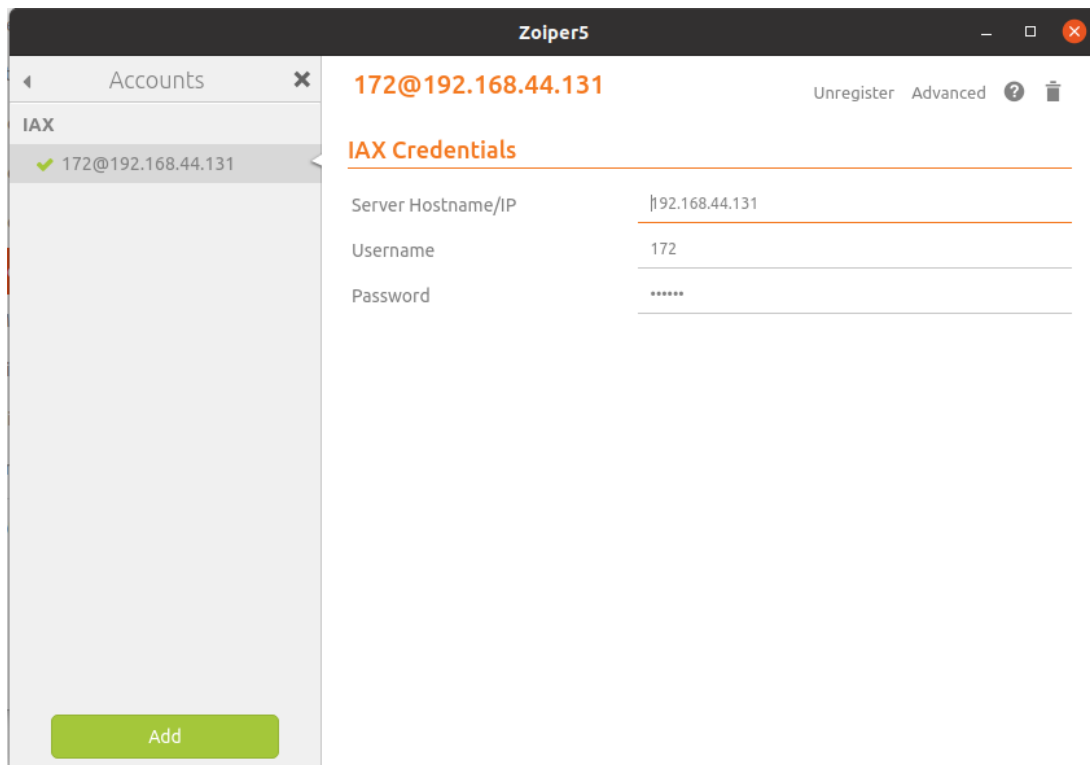
Next



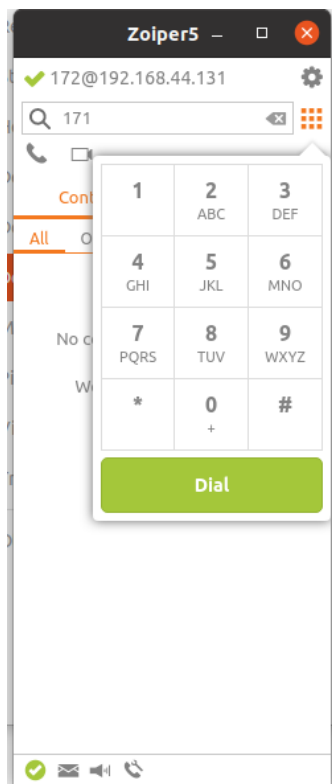
### Success!

We have found some transport type(s) that are available for your configuration.  
The default ones marked with 'Recommended' are priority ordered based on the stability and security of said protocols. However, you are free to choose manually one of the options

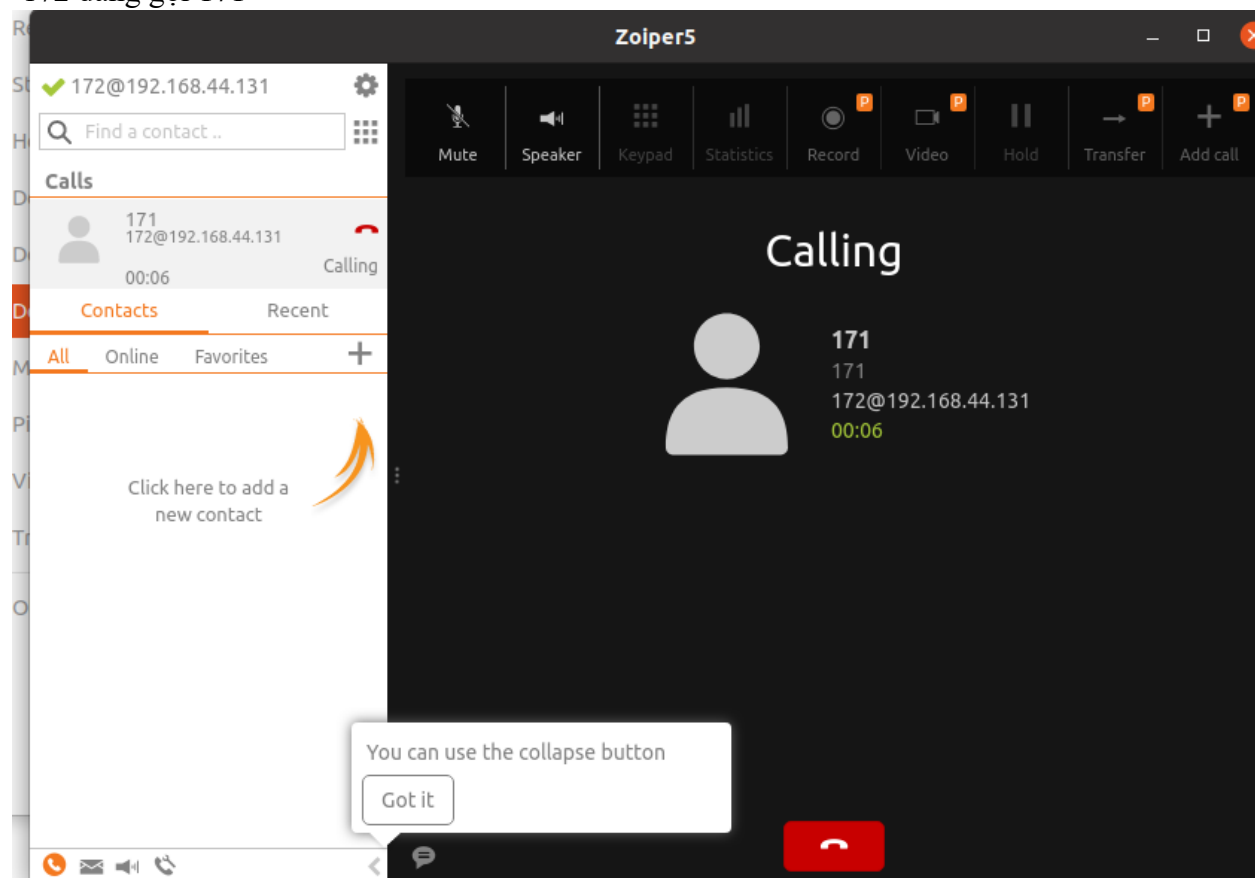




-Bắt đầu gọi điện



-172 đang gọi 171



-171 nhận được cuộc gọi từ 172

Zoiper5

Accounts

SIP

✓ 171@192.168.44.131

Add

171@192.168.44.131

Unregister Advanced ?

SIP Credentials

Domain192.168.44.131

Username171

Password\*\*\*\*\*

Optional SIP credentials

☐ Use auth. username

☐ Use outbound proxy

Outbound proxy

Incoming call

Call from Nhan

AcceptReject